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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,184	11/20/2003	Jeffrey R. Lehtinen	2802-359-056	9317

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EXAMINER	
KIM, TAE JUN	
ART UNIT	**PAPER NUMBER**
3746	
MAIL DATE	**DELIVERY MODE**
07/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

ED

Office Action Summary	Application No.	Applicant(s)	
	10/718,184	LEHTINEN, JEFFREY R.	
	Examiner	Art Unit	
	Ted Kim	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15-18 and 26* is/are allowed.

6)☒ Claim(s) *1-5,8,9,11-14,19-22,25 and 26* is/are rejected.

7)☒ Claim(s) *6,7,10,23 and 24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 May 2007* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on 05/14/2007. These drawings are objected as Fig. 7B illustrates new matter. These drawings have not been entered.

Response to Amendment

2. The amendment filed 05/14/2007 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

> "Specifically, the construction of nozzle 20", shown in Fig. 7A, represents a transverse, schematic, cross sectional view of the Fig. 7 construction, taken through spray tip 32' at the center line of pivot pins 66. In the Fig. 7C construction of nozzle assembly 20'", even though opposed pin members 66 are similarly outwardly directed as in Fig. 7A, pin members 66 are fixedly received in spray tip 32', thereby shifting the rotational interface to shroud 30", while, in Fig, 7A, the rotational interface remains with nozzle tip 32'. *In the Fig. 7B construction, in order to facilitate the assembly of spray tip 32", shroud 30' of Fig. 7A may be split into* ***two cylindrical shell portions*** *30" (only one being shown)* [there is no support for this – the previous paragraph only mentions two semi-cylindrical shells and Fig. 6 appears to show only a cutaway near the pin 66 rather than two cylindrical shells] *abutting at pin members 66, each shell portion having opposed cylindrical cutouts in order to accommodate pin members 66. Upon completion of the assembly, the split may be closed via a rotational weld* [there is no support for this]. *Finally, in the Fig. 7B nozzle construction 21, pin members 66' are preferably* ***integral*** [not supported – the pin

is only shown as a separate element previously] *with spray tip 32", thereby again shifting the rotational interface to shroud 30" which, in order to permit assembly is also comprised of two adjoining cylindrical shell portions 30" in a manner similar to that described relative to Fig. 7C.* Thus, the Fig. 7B and 7C constructions are essentially the reverse of the Fig. 7A nozzle construction."

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1-5, 8-9, 11-14, 19-22, 25, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Scalzo et al (4,850,196). Scalzo et al teach in a fuel injector assembly, for dispensing fuel in the combustion chamber of a gas turbine engine, having a contoured outer housing 34, attached on one end to an engine casing, fully enveloping a contoured deformable fuel feed 32 (inherently deformable, including by thermal expansion), fixedly attached at one end thereof to a housing inlet and having a nozzle tip assembly 54 operatively connected therewith at another end, attached at a housing outlet end 62, said fuel feed being otherwise separated from said housing by a peripheral insulating space 58, wherein the improvement comprises: a. said housing outlet end having a first contoured surface portion 68; and b. said nozzle assembly including a movable nozzle spray-tip having a second contoured surface portion 56 in complementary mating

engagement with said housing first contoured surface portion, resulting in relative motion therebetween upon the operation of said gas turbine engine, as a result of the thermal expansion differential arising due to the differing temperatures of said housing and said fuel feed (see fig. 3); wherein said first 68 and second 56 contoured surface portions are interior and exterior contoured surfaces [when interpreted as the surfaces of each piece, 68 is an interior surface relative to the outlet end, 56 is an exterior surface of the fuel tube], respectively; wherein said first 68 and second 56 contoured surface portions are exterior and interior surfaces [relative to each other], respectively; wherein said contoured surface portions are curved (cylindrical); wherein said contoured surface portions are curved; wherein said housing outlet end further includes a shroud 62, with said shroud including said first contoured surface portion; wherein said contoured surface portions include a curved portion; wherein said housing outlet end further includes an adaptor member, interposed between said housing outlet end and said shroud [e.g. the threaded portion 49, alternately, see below], said adaptor member including a further contoured surface portion; wherein said first and further contoured surface portions are also axially movable relative to each other. An improved fuel injector assembly, for use in an engine, including a curved/cylindrical outer housing 34, fixedly retained on one end at an engine casing, fully enclosing a curved metal fuel feed member 48, said feed member being affixed at an outer end to a housing inlet end and having a nozzle assembly operatively connected therewith at an inner end thereof, said nozzle assembly being yieldingly attached at a housing outlet end, said fuel feed member being otherwise

spaced from said housing via a peripheral insulating space 58, said improvement comprising: a. said housing outlet end including at least one shaped surface portion 68; and b. said nozzle assembly including a movable nozzle spray-tip having another shaped surface portion 56 complementarily matingly conforming with and being in contact with said at least one shaped surface portion, resulting in relative motion therebetween upon the operation of said engine, as a result of the thermal expansion differential arising due to the differing temperatures of said housing and said fuel feed member; wherein each of said shaped surface portions is at least partially curved; wherein said at least one curved surface portion is an interior surface portions and said another curved surface portion is an exterior surface portion; wherein said at least one curved surface portion is an exterior surface portion and said another curved surface portion is an interior surface portion; wherein said at least one curved surface portion includes a second curved surface portion, with said at least one and second curved surface portions also being axially movable relative to each other.

Allowable Subject Matter

5. Claims 15-18, 26 are allowed.

6. Claims 6, 7, 10, 23, 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed 05/14/2007 have been fully considered and are persuasive regarding the Korezendorfer and Laing et al references but they are not persuasive with regard to Scalzo. Applicant argues that the fuel tube 32 does not experience any thermal induced mechanical loading, applicant argues limitations which are not recited in the claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The

Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax number for the organization where this application is assigned is 571-273-8300.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg, can be reached at 571-272-4828. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at http://www.uspto.gov/main/patents.htm

/Ted Kim/
Primary Examiner
June 26, 2007

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NEW SHEET

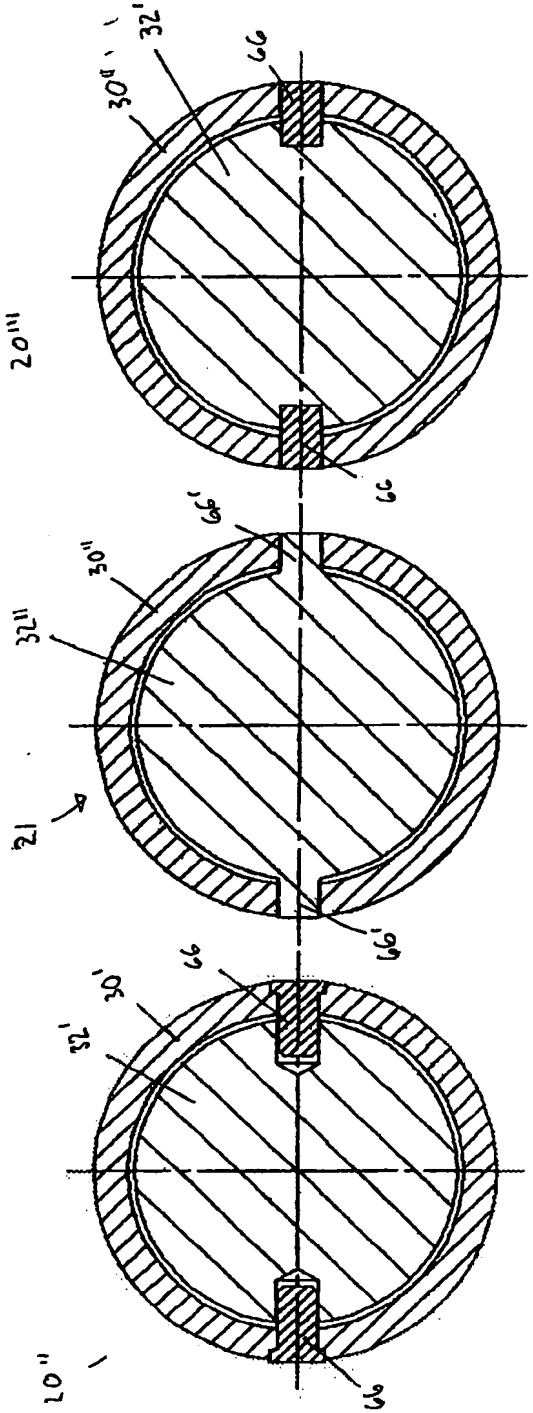

FIG. 7C

FIG. 7B

FIG. 7A

ENTRY
NOT APPROVED
TK
6/26/07